

This listing of claims replaces all prior versions, and listings of claims in the instant application:

Listing of Claims:

1. (Withdrawn) A method for activating a fuse comprising:

providing an integrated circuit chip, said integrated circuit chip comprising an integrated circuit chip active surface, said integrated circuit chip active surface being formed on a first surface of a substrate, said substrate having a substrate backside surface, said substrate backside surface being opposite said substrate first surface, said substrate having a substrate band-gap energy;

forming a fuse in said integrated circuit chip active surface, said fuse being activated by LASER energy, said LASER energy being comprised of photons, each photon having a predetermined photon energy, said photon energy being less than said substrate band-gap energy;

activating said fuse in said integrated circuit chip active surface by directing said LASER at said substrate backside surface and focusing said LASER energy such that an intensity of said LASER energy at said fuse causes multiple-photon absorption by said fuse.

2. (Withdrawn) The method for activating a fuse of Claim 1, wherein;

said activating said fuse in said integrated circuit chip active surface by directing said LASER at said substrate backside surface and focusing said LASER energy such that an intensity of said LASER

energy at said fuse causes multiple-photon absorption by said fuse and causes said fuse to be annealed.

3. (Withdrawn) The method for activating a fuse of Claim 2, wherein;
said predetermined photon energy is less than said substrate band-gap energy but greater than one-half said substrate band-gap energy.

4. (Withdrawn) The method for activating a fuse of Claim 2, wherein;
said predetermined photon energy is less than one-half said substrate band-gap energy but greater than one-third said substrate band-gap energy.

5. (Withdrawn) The method for activating a fuse of Claim 2, wherein;
said predetermined photon energy is less than said substrate band-gap energy divided by "n-1" but greater than said substrate band-gap energy divided by "n", where "n" is the number of photons that must be nearly simultaneously absorbed by said fuse to anneal said fuse and where "n" is an integer equal to or larger than two.

6. (Withdrawn) The method for activating a fuse of Claim 2, wherein;
said fuse electrically couples a repair circuit to said integrated circuit.

7. (Withdrawn) The method for activating a fuse of Claim 2, wherein;
said fuse electrically bypasses a defective circuit in said integrated circuit.

8. (Withdrawn) The method for activating a fuse of Claim 1, wherein;

said activating said fuse in said integrated circuit chip active surface by directing said LASER at said substrate backside surface and focusing said LASER energy such that an intensity of said LASER energy at said fuse causes multiple-photon absorption by said fuse and causes said fuse to be ablated.

9. (Withdrawn) The method for activating a fuse of Claim 8, wherein;

said predetermined photon energy is less than said substrate band-gap energy but greater than one-half said substrate band-gap energy.

10. (Withdrawn) The method for activating a fuse of Claim 8, wherein;

said predetermined photon energy is less than half said substrate band-gap energy but greater than one-third said substrate band-gap energy.

11. (Withdrawn) The method for activating a fuse of Claim 8, wherein;

said predetermined photon energy is less than said substrate band-gap energy divided by "n-1" but greater than said substrate band-gap energy divided by "n", where "n" is the number of photons that must be nearly simultaneously absorbed by said fuse to ablate said fuse and where "n" is an integer equal to or larger than two.

12. (Withdrawn) The method for activating a fuse of Claim 8, wherein;

said fuse electrically couples a repair circuit to said integrated circuit.

13. (Withdrawn) The method for activating a fuse of Claim 8, wherein;

said fuse electrically bypasses a defective circuit in said integrated circuit.

14. (Original) A method for repairing a non-functioning integrated circuit comprising:

providing an integrated circuit chip, said integrated circuit chip comprising an integrated circuit chip active surface, said integrated circuit chip active surface being formed on a first surface of a substrate, said substrate having a substrate backside surface, said substrate backside surface being opposite said substrate first surface, said substrate having a substrate band-gap energy;

providing redundant repair circuitry in said integrated circuit chip active surface to replace any failed circuitry in said integrated circuit chip active surface;

forming a fuse in said integrated circuit chip active surface, said fuse for connecting said redundant repair circuitry to circuitry formed in said integrated circuit active surface, said fuse being activated by LASER energy, said LASER energy being comprised of photons, each photon having a predetermined photon energy, said photon energy being less than said substrate band-gap energy;

activating said fuse in said integrated circuit chip active surface by directing said LASER at said substrate backside surface and focusing said LASER energy such that an intensity of said LASER energy at

said fuse causes multiple-photon absorption by said fuse, said fuse thereby connecting said redundant repair circuitry to said circuitry formed in said integrated circuit active surface.

15. (Original) The method for repairing a non-functioning integrated circuit of Claim 14, wherein; said activating said fuse in said integrated circuit chip active surface by directing said LASER at said substrate backside surface and focusing said LASER energy such that an intensity of said LASER energy at said fuse causes multiple-photon absorption by said fuse and causes said fuse to be annealed.

16. (Original) The method for repairing a non-functioning integrated circuit of Claim 15, wherein; said predetermined photon energy is less than said substrate band-gap energy but greater than one-half said substrate band-gap energy.

17. (Original) The method for repairing a non-functioning integrated circuit of Claim 15, wherein; said predetermined photon energy is less than half said substrate band-gap energy but greater than one-third said substrate band-gap energy.

18. (Original) The method for repairing a non-functioning integrated circuit of Claim 15, wherein; said predetermined photon energy is less than said substrate band-gap energy divided by "n-1" but greater than said substrate band-gap energy divided by "n", where "n" is the number of photons that must be nearly simultaneously absorbed by said fuse to

anneal said fuse and where "n" is an integer equal to or larger than two.

19. (Original) The method for repairing a non-functioning integrated circuit of Claim 15, wherein; said fuse electrically couples a repair circuit to said integrated circuit.

20. (Original) The method for repairing a non-functioning integrated circuit of Claim 15, wherein; said fuse electrically bypasses a defective circuit in said integrated circuit.

21. (Original) The method for repairing a non-functioning integrated circuit of Claim 14, wherein; said activating said fuse in said integrated circuit chip active surface by directing said LASER at said substrate backside surface and focusing said LASER energy such that an intensity of said LASER energy at said fuse causes multiple-photon absorption by said fuse and causes said fuse to be ablated.

22. (Original) The method for repairing a non-functioning integrated circuit of Claim 21, wherein; said predetermined photon energy is less than said substrate band-gap energy but greater than one-half said substrate band-gap energy.

23. (Original) The method for repairing a non-functioning integrated circuit of Claim 21, wherein; said predetermined photon energy is less than half said substrate band-gap energy but greater than one-third said substrate band-gap energy.

24. (Original) The method for repairing a non-functioning integrated circuit of Claim 21, wherein; said predetermined photon energy is less than said substrate band-gap energy divided by "n-1" but greater than said substrate band-gap energy divided by "n", where "n" is the number of photons that must be nearly simultaneously absorbed by said fuse to ablate said fuse and where "n" is an integer equal to or larger than two.

25. (Original) The method for repairing a non-functioning integrated circuit of Claim 21, wherein; said fuse electrically couples a repair circuit to said integrated circuit.

26. (Original) The method for repairing a non-functioning integrated circuit of Claim 21, wherein; said fuse electrically bypasses a defective circuit in said integrated circuit.

27. (Withdrawn) A method for activating a fuse comprising:

providing an integrated circuit chip, said integrated circuit chip comprising an integrated circuit chip active surface, said integrated circuit chip active surface being formed on a first surface of a substrate, said substrate having a substrate backside surface, said substrate backside surface being opposite said substrate first surface, said substrate having a substrate band-gap energy;

forming a fuse in said integrated circuit chip active surface, said fuse being activated by LASER energy, said LASER energy being comprised of photons, each photon having a predetermined photon energy,

said photon energy being less than said substrate band-gap energy;

activating said fuse in said integrated circuit chip active surface by directing said LASER at said a surface and focusing said LASER energy such that an intensity of said LASER energy at said fuse causes multiple-photon absorption by said fuse.

28. (Withdrawn) The method for activating a fuse of Claim 27, wherein;

said activating said fuse in said integrated circuit chip active surface by directing said LASER at said surface and focusing said LASER energy such that an intensity of said LASER energy at said fuse causes multiple-photon absorption by said fuse and causes said fuse to be annealed.

29. (Withdrawn) The method for activating a fuse of Claim 28, wherein;

said predetermined photon energy is less than said substrate band-gap energy but greater than one-half said substrate band-gap energy.

30. (Withdrawn) The method for activating a fuse of Claim 28, wherein;

said predetermined photon energy is less than half said substrate band-gap energy but greater than one-third said substrate band-gap energy.

31. (Withdrawn) The method for activating a fuse of Claim 28, wherein;

said predetermined photon energy is less than said substrate band-gap energy divided by "n-1" but greater than said substrate band-gap energy divided

by "n", where "n" is the number of photons that must be nearly simultaneously absorbed by said fuse to anneal said fuse and where "n" is an integer equal to or larger than two.

32. (Withdrawn) The method for activating a fuse of Claim 28, wherein;

 said fuse electrically couples a repair circuit to said integrated circuit.

33. (Withdrawn) The method for activating a fuse of Claim 28, wherein;

 said fuse electrically bypasses a defective circuit in said integrated circuit.

34. (Withdrawn) The method for activating a fuse of Claim 28, wherein;

 said activating said fuse in said integrated circuit chip active surface by directing said LASER at said substrate backside surface and focusing said LASER energy such that an intensity of said LASER energy at said fuse causes multiple-photon absorption by said fuse and causes said fuse to be ablated.

35. (Withdrawn) The method for activating a fuse of Claim 34, wherein;

 said predetermined photon energy is less than said substrate band-gap energy but greater than one-half said substrate band-gap energy.

36. (Withdrawn) The method for activating a fuse of Claim 34, wherein;

said predetermined photon energy is less than half said substrate band-gap energy but greater than one-third said substrate band-gap energy.

37. (Withdrawn) The method for activating a fuse of Claim 34, wherein;

said predetermined photon energy is less than said substrate band-gap energy divided by "n-1" but greater than said substrate band-gap energy divided by "n", where "n" is the number of photons that must be nearly simultaneously absorbed by said fuse to ablate said fuse and where "n" is an integer equal to or larger than two.

38. (Withdrawn) The method for activating a fuse of Claim 34, wherein;

said fuse electrically couples a repair circuit to said integrated circuit.

39. (Withdrawn) The method for activating a fuse of Claim 34, wherein;
said fuse electrically bypasses a defective circuit in said integrated circuit.